

IN THE SPECIFICATION

Please replace paragraph [0028] on page 7 with the following new paragraph:

Figure 3 illustrates a process by which a determination of the presence of a loading coil on a local loop is made in accordance with one embodiment of the invention. Process 300, shown in Figure 3, begins with operation 305 in which discrete ~~fourier~~ Fourier transform (“DFT”) values are determined for a number of line-probing frequency values.

Please replace the current abstract with the following new abstract:

Embodiments of the invention provide methods and apparatuses to determine the characteristics of a local loop using the multi-tone line-probing signals of a standard voice-based modem. For one embodiment, the multi-tone, line-probing signals of a voice-band modem are transmitted over a local loop and received at a standard voice band modem. Discrete ~~fourier~~ Fourier transform values are determined for each of two or more frequencies of the plurality of frequencies of the multi-tone signals. A set of discrete ~~fourier~~ Fourier transform values corresponding to a set of high frequencies is summed to obtain a first value and a set of discrete ~~fourier~~ Fourier transform values corresponding to a set of low frequencies is summed to obtain a second value. A power ratio is determined by dividing the first value by the second value. The power ratio is then used to determine a characteristic of the local loop.